



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/657,098 | 09/09/2003 | Masayuki Kuwabara | 103446.01 | 9850 |

25944 7590 07/25/2006
OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

WERNER, BRIAN P

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2624

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,098

Applicant(s)

KUWABARA, MASAYUKI

Examiner

Brian P. Werner

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/16/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment received on May 15, 2006 has been entered. Claims 1-16 are now pending.

Specification

2. The previous objection to the specification has been withdrawn in response to the specification amendment.

37 CFR 1.105 Requirement for Information

3. In regards to the examiner's previous requirement for information, applicant's statement that, "Applicant and Applicant's Assignee respectfully submit that they do not possess or know of any document that teaches such feature" (at page 9, section III of the response received on May 15, 2006) is acknowledged.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Feldman et al. (US 3,963,354 A).

NOTE: Feldman discloses multiple embodiments. The following 102 rejection is based on the embodiment that compares a subject area with “all the other signals” at column 7, line 27.

However, in the 103 rejection below, the embodiment relied upon is one that compares a subject area with only its adjacent areas; e.g., “areas 5-1-1 and 7-1-1” at column 7, line 26.

Regarding claims 1 and 5, Feldman discloses an apparatus (figure 3) and corresponding method comprising:

imaging means for capturing images (figure 3, numeral 40; “charge-coupled imaging device” at column 4, line 15) of three areas arranged in a line on an object (figure 12, areas 1-1-1

Art Unit: 2621

through 10-1-1 are corresponding areas of 10 consecutive chips on a semiconductor wafer as depicted in figure 1; the claim is open-ended and does not preclude ten (10) consecutive areas from anticipating the claimed three consecutive areas);

image comparison means for dividing the areas into at least one group, each group including the consecutive three of the areas (figure 12, the areas 1-1-1 through 10-1-1 are a group, in that all of the areas are used to determine whether each individual area has a defect as described below);

for designating one of the areas as a subject area (e.g., figure 12, area 6-1-1 is tested at column 7, line 22) and other two of the areas as comparison areas for the subject area (area 6-1-1 is compared with each of its neighbors as described below);

the comparison areas being in the same group with the subject area and within a predetermined distance from the subject area (areas 1-1-1 through 10-1-1 are all in the same group as described above, in that they are all used collectively for comparison with each individual area as described below; each of the areas is exactly one chip repetition period away from its adjacent neighbors as depicted in figure 4; e.g., area 1-1-1 in figure 4 is one chip away from area 2-2-2, “5mm” away) and for comparing the image of the subject area with the images of the comparison areas (“comparing the 6-1-1 signal with ... all the other signals” at column 7, lines 25 –27); and

defect detection means for detecting a defect in the object in accordance with the comparison between the images of the areas by the image comparison means (“true defect signal” at column 7, line 23),

Art Unit: 2621

wherein the image comparison means is configured to number the areas in each group along the line (figure 12, 1-1-1 through 10-1-1) and to select the comparison areas;

when the subject area is one of the ends of the odd-numbered areas in the group (e.g., area 1-1-1), the comparison areas are one odd-numbered area and one even-numbered area closest to the subject area (again, since each and every individual cell is compared with “all the other signals”, or cells as described at column 7, line 27, “all the other” areas include “one odd-numbered area and one even-numbered area closest to the subject area”; e.g., 2-1-1 and 3-1-1); and

when the subject area is one even-numbered area and is not one of ends of the group (e.g., area 6-1-1), the comparison areas are two odd -numbered areas closest to the subject area (“comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, line 26; again, since each and every individual cell is compared with “all the other signals”, or cells as described at column 7, line 27, “all the other” areas include “two odd-numbered areas closest to the subject area”; e.g., 5-1-1- and 7-1-1)

Regarding claims 2 and 6, the areas are arranged in a row on the object (e.g., figures 4 and 12; all the areas are in a row).

Regarding claims 3 and 7, the imaging means relatively scans the object along the line to sequentially capture the images of the areas (as depicted in figures 5 and 6; e.g., image 1-1-1 is captured at time t1, and 2-1-1 at t2, etc. in a series and in a line).

Regarding claims 4 and 8, the imaging means relatively scans the object along the line by one of a CCD line sensor and a TDI sensor to sequentially capture the images of the areas (a CCD, or “charge-coupled image device” at column 4, line 15 is used to scan the object).

Art Unit: 2621

Regarding claims 9 and 13, when the imaging means captures at least two of the three areas, the comparison means compares the images between a first and a second area (the imaging means captures and then processes “10 elements at a time” at column 8, line 2; the limitation “at least two ...” is open ended and is anticipates the full capture of ten (10) elements before processing).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

NOTE: Feldman discloses multiple embodiments. The 102 rejection above was based on the embodiment that compares a subject area with “all the other signals” at column 7, line 27.

However, in the 103 rejection below, the embodiment relied upon is one that compares a subject area with only it’s adjacent areas; e.g., “areas 5-1-1 and 7-1-1” at column 7, line 26.

7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman et al. (US 3,963,354 A) and Taniguchi et al. (JP 2-10249 A – Translation Provided).

Regarding claims 1 and 5, Feldman discloses an apparatus (figure 3) and corresponding method comprising:

imaging means for capturing images (figure 3, numeral 40; “charge-coupled imaging device” at column 4, line 15) of three areas arranged in a line on an object (figure 12, areas 5-1-1, 6-1-1 and 7-1-1; one subject area is compared to two adjacent comparison areas; “comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, lines 25-26);

image comparison means for dividing the areas into at least one group, each group including the consecutive three of the areas; for designating one of the areas as a subject area and other two of the areas as comparison areas for the subject area (as stated above, “processor 20” at column 7, line 24, utilizes three consecutive areas for comparison; that is, one subject area is compared to two adjacent comparison areas; “comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, lines 25-26);

the comparison areas being in the same group with the subject area and within a predetermined distance from the subject area (areas 5-1-1 through 7-1-1 are each one chip distance away from the other as depicted in figures 1 and 4 and for comparing the image of the subject area with the images of the comparison areas (“comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, lines 25-26); and

defect detection means for detecting a defect in the object in accordance with the comparison between the images of the areas by the image comparison means (“true defect signal” at column 7, line 23),

wherein the image comparison means is configured to number the areas in each group along the line (figure 12, 5-1-1, 6-1-1 and 7-1-1) and to select the comparison areas;

when the subject area is one even-numbered area and is not one of ends of the group (e.g., area 6-1-1), the comparison areas are two odd -numbered areas closest to the subject area (“comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, line 26).

While the process of comparing each and every chip with its neighboring chips is repeated for every chip as depicted in figure 12, e.g., for all ten (10) chips (1-1-1 through 10-1-1), whereby a within a group of three chips, a center chip is compared with its neighbors (e.g., “comparing the 6-1-1 signal with ... areas 5-1-1 and 7-1-1” at column 7, lines 25-26), Feldman does not describe which chips the end chips (e.g., 1-1-1 and 10-1-1) are compared to. That is, any chips that are surrounded by two immediate neighboring chips on either side are compared with those neighbors. However, the end chips (e.g., 1-1-1 and 10-1-1) only have a single neighbor. In the case of chips 1-1-1, only chip 2-1-1 is its immediate neighbor. In the case of chip 10-1-1, only chip 9-1-1 is its immediate neighbor.

Therefore, while Feldman teaches (based on his comparison with immediate neighbors) that when the subject area is one of the ends of the odd-numbered areas in the group (e.g., area 1-1-1), the comparison area is at least one even-numbered area closest to the subject area (i.e., chip 2-1-1 is an immediate neighbor of chip 1-1-1, and given the teaching of Feldman, would be a comparison chips because it’s an immediate neighbor),

Feldman does not teach (underlined and bolded below) that when the subject area is one of the ends of the odd-numbered areas in the group (e.g., area 1-1-1), the comparison area is at least **one odd-numbered area and** one even-numbered area closest to the subject area. Feldman is silent about what to do in the situation of comparing end chips, such as 1-1-1 and 10-1-1.

Art Unit: 2621

Taniguchi discloses a system in the same field of semiconductor die inspection, wherein Taniguchi (referring to figure 7, and page 13, last two lines of page to page 14, first paragraph) numbers each of the dies on a wafer for inspection is a sequence (figure 7), and where Taniguchi compares each die with two of its neighbors. In the case of end dies, such as S1 and S26 in figure 7, Taniguchi suggests scanning another neighboring die to ensure that the end chips are inspected twice; as are all the other chips. Taniguchi states, "since only each one chip being compared exists (S2 for S1 and S25 for S26) in the initial chip S1 and the final chip S26), the defect decision explained in figure 6 is impossible. Accordingly, the chip other than S2 adjacent to the chip S1 ... is scanned prior to the start of the inspection in said wafer 3, and after scanning of the final chip S26, the chip other than S25 adjacent to chip S26 ... may be scanned" at translation page 4, first paragraph.

Given the situation faced by Feldman at figure 12 whereby end chips (e.g., 1-1-1) do not have neighbors on either side, and given the suggestion by Taniguchi that end chips still need double comparisons with their next closest neighboring chips, it would have been obvious at the time the invention was made to one of ordinary skill in the art to compare the end chips (e.g., 1-1-1) of Feldman with both their immediate neighbors (e.g., 2-1-1) and with their next immediate neighbor (e.g., 3-1-1), to ensure that the end chips (which do not have neighbors on either side) are also inspected twice; thus fulfilling the ultimate desire of Feldman. Doing so meets the limitation of the comparison area being at least **one odd-numbered area and** one even-numbered area closest to the subject area (e.g., chips 2-1-1 and 3-1-1 of Feldman's figure 12).

Art Unit: 2621

It would have been obvious at the time the invention was made to one of ordinary skill in the art to scan chip

Regarding claims 2 and 6, the areas are arranged in a row on the object (e.g., figures 4 and 12; all the areas are in a row).

Regarding claims 3 and 7, the imaging means relatively scans the object along the line to sequentially capture the images of the areas (as depicted in figures 5 and 6; e.g., image 1-1-1 is captured at time t1, and 2-1-1 at t2, etc. in a series and in a line).

Regarding claims 4 and 8, the imaging means relatively scans the object along the line by one of a CCD line sensor and a TDI sensor to sequentially capture the images of the areas (a CCD, or “charge-coupled image device” at column 4, line 15 is used to scan the object).

Regarding claims 9 and 13, when the imaging means captures at least two of the three areas, the comparison means compares the images between a first and a second area (the imaging means captures and then processes “10 elements at a time” at column 8, line 2; the limitation “at least two ...” is open ended and is anticipates the full capture of ten (10) elements before processing).

Regarding claims 10, 11, 14 and 15, Feldman discloses an image comparison means (figure 3, numeral 20) and storage means that stores images of the areas read from a scanning means (figure 3, numeral 40).

Feldman does not teach comparing first and second areas (e.g., 1-1-1 and 2-2-2 in figure 12) when the first image has been captured and while the second area is being captured.

Taniguchi teaches, in like fashion to Feldman, the comparison of each of a sequence of dies (figure 7) with their neighboring dies, whereby first and second areas are compared when the first image has been captured and while the second area is being captured (figure 2, and translation page 10, lines 10-19; “patterns of the areas a between the adjacent chips are sequentially compared”).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Feldman’s memory and comparison processor (Feldman figure 3) to compare first and second areas when the first image has been captured and while the second area is being captured as taught by Taniguchi, in order that “the inspection speed of the appearance inspection can be improved” (Taniguchi, translation page 7, last sentence).

Regarding claims 11 and 15, the sequential comparison of images taught by Taniguchi is a frame by frame comparison.

Regarding claims 12 and 16, Feldman disclose a comparison threshold (“threshold” at column 7, line 63).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1 and 5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2 and 5 of U.S. Patent No. 6,643,394 B1 respectively. The conflicting claims are not identical because patent claims 2 and 5 require the capture of “four or more areas arranged in a line”, whereas application claims 1 and 5 recite “three or more areas”. However, the conflicting claims are not patentably distinct from each other because the application and patent claims recite common subject matter, whereby application claims 1 and 5, which recite the open ended transitional phrase “comprising”, do not preclude the additional elements recited by patent claims 2 and 5, and whereby the elements of application claims 1 and 5 are fully anticipated by patent claims 2 and 5, and anticipation is “the ultimate or epitome of obviousness” (*In re Kalm*, 154 USPQ 10 (CCPA 1967), also *In re Dailey*, 178 USPQ 293 (CCPA 1973) and *In re Pearson*, 181 USPQ 641 (CCPA 1974)).

Response to Arguments

10. Applicant's arguments filed on May 15, 2006 have been fully considered but they are not persuasive.

Summary of Applicant's Remarks:

Claims 1-8 are not anticipated by Feldman. Feldman does not disclose a visual inspection apparatus that includes "when the subject area is one of the ends of the odd-numbered areas in the group, the comparison areas are one odd-numbered area and one even-numbered area closest to the subject area, and when the subject area is one-even numbered area and is not one of ends in the group, the comparison areas are two odd-numbered areas closest to the subject area," as recited in independent claim 1 and similarly recited in independent claim 5. By limiting the shortest scanning distance between the

Examiner's Response:

Feldman discloses multiple embodiments. The 102 rejection above was based on the embodiment that compares a subject area with "all the other signals" at column 7, line 27. However, in the 103 rejection below, the embodiment relied upon was the one that compares a subject area with only its adjacent areas; e.g., "areas 5-1-1 and 7-1-1" at column 7, line 26.

Regarding the 102 rejection, which was the embodiment relied upon in the previous Office Action and argued by applicant, and looking at Feldman's figure 12, each and every chip

Art Unit: 2621

depicted therein (i.e., chips 1-1-1 through 10-1-1) are compared with all of the other chips via. an averaging process, described at column 7, lines 25-28. The claim, being open ended, does not preclude intermediate processing. The fact of the matter is, every chips is compared with every other chips. Therefore, if the subject chips is one of the ends of the odd numbered areas (e.g., 1-1-1), it is compared with both an odd numbered area and an even numbered area closest to the chip (e.g., 2-1-1- and 3-1-1). This is necessarily true since according to Feldman, chips 1-1-1 is compared with "all the other signals" (column 7, line 27). Likewise for an even numbered subject area not an one of the ends.

Summary of Applicant's Remarks:

Feldman merely discloses the comparison of a 6-1-1 signal with the average of the signals obtained from areas 5-1-1 and 7-1-1 or with some other weighted average of all the other signals (col. 7, lines 25-27). However, Feldman only discloses that the subject area and the comparison areas relative to the designated subject area are in the same row as the subject area. Therefore, the comparison areas of Feldman can only be any area that is in the same row with the subject areas. Thus, Feldman does not disclose the visual inspection apparatus

Examiner's Response:

Feldman's subject and comparison areas being in the same row is not precluded by the claim.

Summary of Applicant's Remarks:

Claims 1 and 5 are patentably distinct from claims 2 and 5 of U.S. Patent No. 6,643,394. Claims 1 and 5 of the instant application recite "image comparison means for dividing the areas into at least one group, each group including consecutive three of the other areas." (emphasis added). However, claims 2 and 5 of that patent recite "imaging means for capturing images of four or more areas arranged in a line." (emphasis added). Therefore, claims 1 and 5 of the instant application and claims 2 and 5 of the patent have a different scope. Thus, claims 1 and 5 are patentably distinct from claims 2 and 5 of the patent. Withdrawal of the rejection is thus respectfully requested.

Examiner's Response:

Regarding applicant's remark that the claims have a "different scope", it would appear that applicant is arguing against "statutory double patenting". However, the examiner did not advance a statutory double patenting rejection. Rather, the examiner advance an obviousness type double patenting rejection. Essentially, claims 1 and 5 of the instant application are anticipated by claims 2 and 5 of the patent; and anticipation is tantamount to obviousness. The examiner agrees that the scopes are not the same. It is noted that the rejection can be overcome by the filing of a terminal disclaimer.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Werner whose telephone number is 571-272-7401. The examiner can normally be reached on M-F, 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian Werner
Primary Examiner
Art Unit 2624
July 20, 2006



BRIAN WERNER
PRIMARY EXAMINER